

Who Will Lead Next: Where are the New Volunteers?

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Abstract

The American Society for Engineering Education (ASEE) has more than 12,000 members. The majority of ASEE members are faculty, staff, and students from engineering and technology colleges and universities; librarians; STEM and K-12 educators; corporate members; government agencies; and professional societies. ASEE consists of more than 50 divisions, twelve sections, four zones, and six councils. Each of these has an officer or set of officers, which lead the divisions, sections, zones or councils.

This paper documents a pilot study that examined the past, current, and potential future leaders of the Engineering Technology Division (ETD) and Engineering Technology Council (ETC). The primary goal of this research effort was to explore the various avenues and opportunities for future leadership of ETD and ETC. Past, current, and potential future leaders of ETD and ETC were surveyed to determine factors that drive the motivation and dedication for service leadership within ASEE. The members of ETD and ETC were also surveyed to determine what barriers exist to become leaders. Based on the findings of this pilot study, the authors will expand this research in a larger scope within ASEE and into other divisions, councils, etc. Some of the questions that this research attempted to answer were: 1. "Did you receive service recognition for tenure and promotion for working in leadership positions in ETD or ETC at your school or institution?" and 2. "Why did you participate and volunteer to be a leader in ETD or ETC?"

Introduction

American Higher Education dates back 380 years to 1636 with the establishment of Harvard College, which trained young men to be ministers. Most early higher education institutions were established to train or teach young men to be ministers.¹ In Higher Education in the United States; teaching came first, then service, with research following much later. Research was first introduced in England in the 1870s. Daniel Coit Gilman, an American educator and academic, who served as President of Johns Hopkins University along with other numerous accomplishments, introduced research in higher education in the United States beginning in 1906. Research in that time period was known as scholarship, "referred to a variety of creative work carried on in a variety of places, and its integrity was measured by the ability to think, communicate, and learn."²

Today, universities and colleges express the importance of teaching, research and service, sometimes listed by similar names and perhaps in a different order depending on the value perceived by their constituents; however, those may not be the actual value that the

university places on these three works when it comes to credit toward faculty tenure and promotion. It is no surprise that service or community engagement has been undervalued in higher education. Boyer stated in his 1990 report, *Scholarship Reconsidered*, “Colleges and universities have recently rejected service as serious scholarship, partly because it’s meaning is so vague and often disconnected from serious intellectual work.”²

The devaluing of service roles in universities and colleges has affected faculty participation in community service and engagement including faculty volunteering in leadership roles and other forms of participation in their professional societies. Convincing faculty that service is valued as much as teaching and research in some institutions would be next to impossible.³

In 1994, Boyer wrote in an article in the *Chronicle of Higher Education* titled, *The New American College*, in which he stated the purpose of higher education:

Higher Education and the larger purpose of American society are inextricably intertwined... A commitment to service as well as teaching and research was never more needed than now.... Higher education has more intellectual talent than any other institution in our culture. Today’s colleges and universities surely must respond to the challenges that confront society.⁴

In addition, Hrabowski III and Weidemann⁵ stated, “It is critical to note, however, that engagement is not simply entrepreneurship or a means of seeking new revenues; rather, engagement is yet another opportunity for higher education to fulfill its social compact with the public.”⁵ Service and community engagement have returned to Higher Education ever so slowly in America. Faculty all over the United States have proven that the connections with and accomplishments for the greater community are valuable to society and most of all the institution. Whether institutions will recognize these service and engagement efforts is up to the individual institution. It is important to note that engagement in professional societies is also recognized as community service. Without the professional and academic volunteers, professional societies would not exist.

The Research Study

This study was conducted to determine where the future leaders for the ASEE Engineering Technology Council and the Engineering Technology Division would emerge from the ranks of the Engineering Technology (ET) community. There is a concern within the current ET leadership in ETD and ETC that young or seasoned academic professionals are not volunteering for activities within those two groups. Therefore, this study concentrates on three different groups: the past leaders, current leaders and potential future leaders within the ET community. Three surveys were designed to gauge the perceptions of past, current, and future leaders in the areas of collegiality in the community, volunteer motivation, volunteer satisfaction, accountability, and rewards. The data were gathered using Qualtrics surveys. Each survey consisted of approximately 25 questions. Messages to complete the surveys were sent through the ETD list-serve on three different occasions in January 2016.

The ASEE Volunteer Organization

The American Society for Engineering Education has approximately 12,000 members, which includes faculty, administrators, staff, students and industry professionals.

“Founded in 1893, the American Society for Engineering Education is a nonprofit organization of individuals and institutions committed to furthering education in engineering and engineering technology. It accomplishes this mission by

- Promoting excellence in instruction, research, public service and practice;
- Exercising worldwide leadership
- Fostering the technological education; and
- Providing quality products and services”⁶

ASEE fulfills its mission by developing policies and programs to enrich professional opportunities for its membership and “by providing a valuable communication link among corporations, government agencies, and educational institutions. ASEE's 12,000+ members deans, department heads, faculty members, students, and government and industry representatives from all disciplines of engineering and engineering technology.”⁷

There are many opportunities within the American Society for Engineering Education to volunteer and/or take on leadership roles. ASEE has 50 plus divisions and four institutional (type) councils each with its own set of bylaws and officers. There are over 300 campus representatives within ASEE, whose job is to recruit new ASEE members and keep current and potential members informed of ASEE activities. Other volunteer and leadership positions within ASEE are the members of the geographic councils, which include 12 Sections and four Zones all with officers. Last but not least, is the ASEE Board of Directors (BODs) consisting of approximately 20 members. Some of the BODs positions represent various constituents in these ASEE organizations while others are independently elected.⁵

In total, there are more than 800 volunteers in leadership positions within the American Society for Engineering Education. These volunteer leaders are indispensable in order for ASEE to run effectively, at least the way the organization operates today. This large number of leaders does not account for additional volunteer type of positions that the various divisions or other ASEE groups might need, such as program chairs for various ASEE related conferences organized by ASEE divisions, including, the ASEE Conference for Industry and Education Collaboration (CIEC), which has a leadership team of its own and four program chairs.

Responsibilities of an ET Leader

Engineering Technology Division

The Engineering Technology Division (ETD) represents individual engineering technology educators from public or private two- or four-year institutions including faculty, representatives from industry, and students. The ETD sponsors national and regional professional development meetings, workshops, and conferences with

involvement and participation from industry partners and leaders. The ETD promotes national studies, scholarly publications especially the Journal of Engineering Technology. The ETD is engaged in topics of national and international importance for the engineering technology education community. ETD is one of the four ASEE division sponsors of the Conference for Industry and Education Collaboration. ETD also sponsors a large engineering technology list-serve, ET department heads meetings, and a mini-grant program. The Division acts as an up-to-date information exchange for those interested with ideas related to their discipline, administration, profession, and industrial areas of interest. ETD works collaboratively with other divisions and the Engineering Technology Council within ASEE.⁸

Engineering Technology Council

The Engineering Technology Council (ETC) represents the engineering technology institutions. The ETC is comprised of a member from each of the engineering technology colleges or universities that are institutional members. This can include both four-year and two-year institutions. The ETC's mission "is the national organization that speaks for engineering technology education and is committed to promoting quality education and creative endeavors in engineering technology"⁶

For the past several years, the ETC has been working on a number of goals. It has worked to strengthen its positions as a national representative for engineering technology education by moving its Engineering Technology Leaders Institute (ETLI) to Washington, D.C. and changing the meeting format to address national, educational, and policy issues relating to engineering technology. The Engineering Technology National Forum (ETNF) group, a working group of ETC, has taken the challenge to develop a working ET Value Statement to promote the meaning and definition of engineering technology education and professions. ETC encourages participation in the ETLI from all past, present, and future leaders of engineering technology educators.

Both ETD and ETC rely heavily on volunteer leaders to manage the numerous groups, conferences, meetings, and other projects they operate within their various ASEE activities, including ETLI, ET department heads meetings, the Journal of Engineering Technology, Tau Alpha Pi, ETNF, ETD Strategic Planning, CIEC, ETD list serve, ETD Website, etc. Many of these ETD and ETC activities have been in existence for decades.

Results

Factors of Motivation

For this paper, the following survey results will be addressed: support for participation in ETD or ETC; factors of motivation to volunteer or lead within the ETD or ETC; the barriers to volunteer; and specific issues of why future leaders may not want to participate in ASEE ETD and ETC activities.

One question in both the past and current leader surveys addressed whether the faculty member's dean, chair, or supervisor supported their leadership role(s) in ETD or ETC. The results were strikingly similar. A vast majority, (87%) in both groups, reported that they had support of their dean, chair or supervisor, shown in in Table 1 - Question 1.

Table 1 - Question 1				
Question	Past Leaders	%	Current Leaders	%
1. Did your dean, chair, or supervisor support your leadership role(s) in ETD or ETC?				
Yes	27	87%	20	87%
No	4	13%	3	13%
Total	31		23	

A second question asked whether the faculty member received recognition for tenure and promotion for working in a leadership position(s) in ETD or ETC at their school or institution, the results of for past leaders was positive with 15 out of 23 reporting yes. In the current leaders' survey, 14 out of 20 reported they received credit for their leadership work, as shown in Table 2 - Question 2.

Table 2 - Question 2				
Question	Past Leaders	%	Current Leaders	%
2. Did you get service recognition for tenure and promotion for working in leadership positions in ETD or ETC at your school or institution?				
Yes	15	65%	14	70%
No	8	35%	6	30%
Total	23		20	

Five questions, relating to why faculty volunteered to be a leader in ETD or ETC, are answered in Questions 3a in the past leaders survey. Approximately 82% of the answers from past leaders are in the "Agree" or "Strongly Agree" categories; 15% are neutral category; and 3% are in the "Disagree" or "Strongly Disagree" categories, as shown in Table 3a - Question 3a on the following page.

Table 3a - Question 3a: PAST LEADERS						
3a. Select the option that best describes the primary reason you volunteered as a leader (ETD or ETC).	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total No. Responses
<i>a. I wanted to participate to advance the society and the division/council.</i>	0	0	1	8	13	22
<i>b. I wanted to participate because of the collegiality of the others working in the division/council.</i>	0	0	0	12	10	22
<i>c. I wanted to get credit for service activity for my tenure and promotion.</i>	0	0	9	7	4	20
<i>d. I have the support of my dean or chair and thought it would be beneficial to my career in ET education.</i>	1	2	4	7	7	21
<i>e. Someone I knew encouraged me to participate.</i>	0	0	2	9	9	20

Current leaders answered the same questions, relating to why faculty volunteered to be a leader in ETD or ETC, summarized in Table 3b - Question 3b. Roughly 60% of the answers from the current leaders survey are in the “Agree” and “Strongly Agree” categories; 20% are neutral category; and 20% are in the “Disagree” or “Strongly Disagree” category.

Table 3b - Question 3b: CURRENT LEADERS						
3b. Select the option that best describes the primary reason you volunteered as a leader.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total No. Responses
<i>a. I wanted to participate to advance the society and the division/council.</i>	2	0	0	9	7	18
<i>b. I wanted to participate because of the collegiality of the others working in the division/council.</i>	0	0	4	5	8	17
<i>c. I wanted to get credit for service activity for my tenure and promotion.</i>	4	4	4	4	1	17
<i>d. I have the support of my dean or chair and thought it would be beneficial to my career in ET education.</i>	2	2	7	5	1	17
<i>e. Someone I knew encouraged me to participate.</i>	1	1	2	7	3	15

As shown in Table 4a - Question 4a, an average of 81% of the past leaders “Strongly Agreed” or “Agreed” that their volunteer efforts were valuable concerning their service to the organization, 86% of the past leaders indicated a positive influence on the reputation of their home institution, and motivation to work harder at their home institution in

“Strongly Agreed” or “Agreed.” Only 62% “Strongly Agreed” or “Agreed” that their volunteer efforts provided an opportunity to increase morale and cohesiveness among members of their department.

Table 4a - Question 4a: PAST LEADERS						
4a. For each of the following, select the option that best describes your level of agreement.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total No. Responses
<i>a. My volunteer efforts for ETD or ETC were valuable to the organization I serve.</i>	0	0	4	7	10	21
<i>b. My volunteer efforts for ETD or ETC positively influence my school's reputation in the ET community.</i>	0	0	3	8	10	21
<i>c. My volunteer efforts for ETD or ETC motivated me to work harder in my academic job</i>	0	0	1	6	14	21
<i>d. My activities in ETD or ETC provided me an opportunity to increase morale and cohesiveness among members of my department.</i>	0	1	7	5	8	21

As documented in Table 4b - Question 4b, 78% of the current leaders either “Strongly Agreed” or “Agreed” that their volunteer efforts were valuable concerning their service to the organization, 67% indicated a positive influence on the reputation of their home institution, and motivation to work harder at their home institution. However, only 33% “Strongly Agreed” or “Agreed” that their volunteer efforts provided an opportunity to increase morale and cohesiveness among members of their department.

Table 4b - Question 4b: CURRENT LEADERS						
4b. Select the option that best describes your level of agreement.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	Total No. Responses
<i>a. My volunteer efforts for ETD or ETC were valuable to the organization I serve.</i>	1	1	2	10	4	18
<i>b. My volunteer efforts for ETD or ETC positively influence my school's reputation in the ET community.</i>	2	0	4	8	4	18
<i>c. My volunteer efforts for ETD or ETC motivated me to work harder in my academic job</i>	2	0	5	8	3	18
<i>d. My activities in ETD or ETC provided me an opportunity to increase morale and cohesiveness among members of my department.</i>	1	1	10	6	0	18

Barriers of Participation

Future leaders were asked, “Would you consider serving on a committee or in a leadership position within ETD or ETC? Of the 47 individual who responded, 43% answered “yes,” 11% answered “no,” 36% answered “maybe,” and 11% answered “not sure.”

An open-ended question posed to future leaders about their reasons for not volunteering to be a leader was asked with a total of 40 respondents. Forty-five percent of the future leaders indicated the primary reason for not volunteering to be a leader in ETD or ETC was due to work related conflicts. A smaller number, 5% indicated they did not volunteer because of personal conflicts. Another 5% planned to participate but did not like the volunteer positions available. For the same question, another 45% provided open-ended feedback explaining why they did not volunteer for leadership positions in ETD or ETC. The reasons are summarized below:

- The leadership model should be re-thought so that the organization, ETD or ETC, can leverage the talents of its new members in a sustainable support system so that new members see the work as a benefit, not as a duty.
- There was a concern that volunteering for ETD or ETC would not be the best move for their school, students, or institution. It may be best to work towards switching from engineering technology to engineering because of issues like, professional licensure of graduates, which is extremely important for some graduates. It seems ET is losing ground in many states in this area.
- Financial support for travel to multiple conferences per year is a major difficulty in volunteering to leadership positions. The Dean verbally encourages our participation but the money for multiple conferences is not in our travel budget.
- Being an active participant would broaden my exposure to current and future technologies as well as colleagues in the field.
- I am still new to the ETD domain but have volunteered to help ETD/ETC.
- I did volunteer but did not have the support of my supervisor.
- I would like to participate in the future.
- I tried to participate but it did not work out.
- I was not asked to volunteer.
- I would like to volunteer but I can only attend conference/meetings when I have grants support, therefore I am not sure in advance if I can participate in meetings on a regular basis.
- I do not receive sufficient professional develop funds to travel.
- ASEE should consider reassessing ETD/ETC priorities.
- I tried to volunteer but was not elected to the board.⁹

Conclusion

For past and current leaders surveyed, it seems the vast majority of ETD and ETC volunteers (87%) did receive administrative support for their role as leaders. Another question addressed in the study revealed that 80% or above in both of these groups, answered that their dean, chair or supervisor supported their ETD or ETC activities

financially through sponsoring all or some of the travel and registration for ASEE related conferences. However, on the other hand, only 65% of past leaders and 70% of current leaders received service recognition for tenure and promotion. So support was there but perhaps not always the recognition. Further study will need to be done to see why there was a lack of recognition for some. For the future leaders, several indicated issues related to lack of financial support for meetings as a barrier to volunteering.

Given the feedback from potential future leaders, the ETD and ETC could look into using teleconferencing or conference calls for some of their meetings, so that volunteers could participate without having to travel to multiple conferences. In addition, both groups should view all the suggestions for new ways to attract future leaders into these groups.

There were a number of questions asked in three specific surveys for past, current, and future leaders, which resulted in a wealth of information in this study. The results of this study will be statistically analyzed, which in combination with feedback from members of ETD and ETC, will result in the development of follow up survey in order to collect additional, and more refined, responses. It is anticipated that the results of the follow up survey will provide practical methods to provide a process for leadership development for ETD and ETC.

References

1. Wikipedia. (2016). History of higher education in the United States. Retrieved January 26, 2016, https://en.wikipedia.org/wiki/History_of_higher_education_in_the_United_States
2. Boyer, E.L. (1990). Scholarship Reconsidered. Priorities of the Professoriate. A Special Report. The Carnegie Foundation For the Advancement of Teaching. Retrieved 11/9/15 from <https://depts.washington.edu/gs630/Spring/Boyer.pdf>
3. Antonio, A.L., Astin, H.S. & Cress, C. (2000). Community Service in Higher Education: A Look at the Nation's Faculty. The Review of Higher Education. Vol. 23, No. 4. pp. 373-398.
4. Boyer, E.L. (1994). Creating the New American College. The Chronicle of Higher of Education.
5. Hrabowski III, F.A., & Weidemann, C. D. (2004). University Outreach and Engagement: Responding to a Changing World. Journal of Higher Education Outreach and Engagement, Vol.10, No. 1, p. 15.
6. ASEE (2016). Members Resources Group. Retrieved January 22, 2016, <http://www.asee.org/member-resources/groups>.
7. ASEE (2106). Who We Are. Retrieved January 22, 2016, <http://www.asee.org/about-us/the-organization>
8. EngTech. (2010). Engineering Technology Division Website. Retrieved January 24, 2016, <http://www.engtech.org/>
9. Leaders Surveys. (2016). Qualtrics ETD/ETC Surveys. Indiana University Purdue University Indianapolis.